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10/701,456

11/06/2003

Steven Walak

12013/47701

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SUITE 700

WASHINGTON, DC 20005

EXAMINER

VORTMAN, ANATOLY

ART UNIT

PAPER NUMBER

2835

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

02/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/701,456

Applicant(s)

WALAK, STEVEN

Examiner

Anatoly Vortman

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 36-43 and 51-57 is/are pending in the application.
- 4a) Of the above claim(s) 21-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36-43 and 51-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date 0107.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. This application contains claims directed to the following patentably distinct species:

**Specie I**, claims 36-43, drawn to embodiment comprising “one or more finger portions”, representative Fig. 10B.

**Specie II**, claims 51-57, drawn to embodiment comprising “a plurality of discrete elements disposed within the wall of the hollow tube such that each discrete element is not in contact with another discrete element; wherein the discrete elements comprise a shape memory alloy”, representative Fig. 4C.

2. The species are independent or distinct because of mutually exclusive and patentably distinct features as explained above.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims appears to be generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

3. During a telephone conversation with **Mr. Steven S. Yu, Reg. No. 58, 776 on 01/26/07** a provisional election was made to prosecute the invention of Specie I, claims 36-43. Affirmation of this election must be made by applicant in replying to this Office action. Claims 51-57 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 36-43, are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/04895 to Zadno-Azizi et al (cited on IDS) (US counterpart US/5611874) in view of US/5,908,429 to Yoon.

Regarding claims 36 and 40-43, the disclosure of Zadno-Azizi et al. teaches all of the elements recited in the claims, and specifically, as shown on Fig. 2 and 3: **a two-way actuator**

**formed of composite material, wherein the composite material comprises: a first component comprising a first shape memory alloy (27); and a second component comprising an elastic metal (28), wherein said first component and said second component are metallurgically bonded together** to form said composite material comprising a body having a surface and a cladding covering at least part of the body and being in intimate contact with the surface, with body and cladding being formed of different materials and at least one of the materials being a shape memory alloy e.g. Nickel Titanium (nitinol) SMA (claim 1 and page 4 line 17 to page 6, line 15). It is also disclosed a method for forming this composite structure, according to which body and cladding by drawing down the assembly to a reduced cross sectional area and establishing intimate contact between body and cladding. In an example of forming a composite wire the center core is a SMA and the cladding may be stainless steel, or a highly conductive material such as copper, gold, silver, nickel, etc. The drawing operation creates strong metallurgical adhesion between the SMA core and the cladding and provides a very strong composite material (claims 19-22 and page 7, line 3 to page 9, line 16). A composite structure is additionally described (page 15, line 1 to page 17, line 6) which consists of two planar sheets one of them being a SMA which is cladded for example with stainless steel (p. 8, lines 43+). Wherein transitional temperatures of the first shape memory alloy allow actuation of the two-way actuator at temperatures suitable for use on a subject's body tissue (inherently, if said body tissue is, for example, removed from the live organism).

Zadno-Azizi is silent regarding the "finger portions".

Yoon teaches a shape memory alloy actuator (Fig. 1) for medical applications comprising finger portions (50A, 50B) for grasping body tissue.

It would have been obvious to a person of ordinary skill in relevant arts at the time the invention was made to modify the actuator of Zadno-Azizi by providing it with finger portions as taught by Yoon, in order to accommodate said actuator of Zadno-Azizi for a particular application requiring grasping capabilities (e.g. to grasp body tissue in medical applications).

Regarding claims 37-39, it would have been obvious to select the transitional temperatures of the first shape memory alloy in any suitable range, including as claimed (i.e.:  $A_f < 35^\circ\text{C}$ ,  $M_f > 0^\circ\text{C}$ ), in order to accommodate the actuator for a specific application, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

#### ***Response to Arguments***

6. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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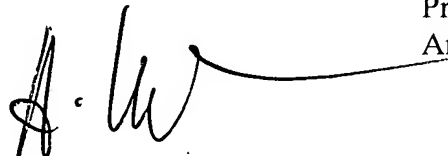
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anatoly Vortman, P.E.  
Primary Examiner  
Art Unit 2835

A handwritten signature in black ink, appearing to be 'A. Vortman', with a long horizontal line extending to the right.

AV